POLLUTION PREVENTION CAMPAIGN

The North Natomas neighborhood in Sacramento features rural surroundings and open spaces all within minutes of the busy downtown area. An extensive system of stormwater detention basins and canals has been built to provide flood protection, improve water quality, and be an aesthetic amenity to the community.

Drains Not Sewers
Water from street storm drains flows directly into these detention basins and is pumped out to the Sacramento River. Although these basins will filter out pollutants running off the streets, the water is ***not*** treated or cleaned. These detention basins are not sewers. Excessive contaminants will destroy the wildlife habitat within the basins and pollute the river.

Pollutants from Homes
Seemingly innocent activities associated with maintaining new homes can discharge pollutants into the storm drain system. Overwatering lawns, washing cars, or draining pools and spas can wash pesticides, fertilizers, green waste, pet feces, sediment, oil, antifreeze, grease, and other pollutants into these neighborhood detention basins. The good news is North Natomas residents are being taught the solutions to these water pollution problems. Use of responsible landscape and home maintenance practices can preserve the environment in this unique community.

Outreach Campaign
The California Integrated Waste Management Board (CIWMB) in partnership with the City of Sacramento is conducting a pollution prevention campaign to educate North Natomas residents on using landscape and home maintenance practices that will prevent contaminants from flowing into the detention basins. The campaign addresses the following activities that are potential causes of water pollution:

- Runoff from overwatering landscapes.
- Overuse of chemical fertilizers and pesticides.
- Green waste in street gutters.
- Home and car maintenance.

Runoff Carries Pollution
Runoff from overwatering landscapes is the primary mechanism that transports pollutants into storm drains during dry weather. Water runoff sweeps pollutants from lawns, driveways, parking lots, and street gutters into storm drains. These pollutants then flow into neighborhood detention basins and canals, degrading water quality and harming aquatic life.

Overwatering Problems
Overwatering landscapes may cause a variety of problems for homeowners. Plants grow too quickly, which requires frequent mowing, pruning, and weeding. This generates more green waste and increases maintenance costs.

Overwatering also creates unhealthy conditions for lawns, shrubs, and trees. Saturated soils prevent air movement in the soil, which can kill root tips and encourage shallow roots. This provides a favorable environment for disease, pests, and weeds. Pesticides are often used to provide temporary relief from problems caused by too much water.

Survey Results
The Sacramento County University of California Cooperative Extension surveyed local residents who believed lawn insect pests were causing damage on their lawns. Of the 110 residents surveyed, 70 percent were intending to use an insecticide on their lawns when only 5 percent of the lawns surveyed actually had insect damage. *Most often, improper irrigation practices were the cause of the lawn damage.*

Hardscape Damage
Overwatering also damages exterior walls, fences, sidewalks, curbs, street gutters, and parking lots. Surfaces deteriorate faster from constant over spray and water runoff and require repair or replacement sooner.

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Watering Schedule
One of the best ways to reduce water runoff is to properly program your landscape irrigation controller (or timer) to set up a seasonal watering schedule. Adjust the watering schedule to match the changing needs of plants and seasonal weather conditions. Remember to turn off irrigation systems during the rainy season. Water for longer periods of time during the hot summer months.
Here are some additional tips on how to water more efficiently:

- Water slopes with shorter run times and more start times to allow water to absorb into the soil.
- Check irrigation system frequently for leaks, broken heads, etc.
- Water landscapes between midnight and 10 a.m. Avoid peak water use hours of 5 a.m. to 8 a.m.
- Never water in the afternoon during the summer.

More information on conserving water and preventing runoff, can be found at the following two Web sites:

- H2ouse Water Saver Home
  www.h2house.net/tour/landscaping.cfm
- University of California Guide To Healthy Lawns
  www.ipm.ucdavis.edu/TOOLS/TURF/MAINTAIN/irrigate.html
- California Department of Water Resources
  www.owue.water.ca.gov/landscape/pubs/pubs.cfm

Fertilizers and Pesticides
Indiscriminate use of chemical fertilizers and pesticides in landscapes can lead to pollutants being discharged into the neighborhood detention basins. These toxic materials can degrade water quality and harm aquatic life. The best solution is to reduce dependence on chemical fertilizers and toxic pesticides. Use proper landscape maintenance practices to produce healthy soils and plants.

Limit Fertilization
Quick-release, high-nitrogen chemical fertilizers cause plants to grow too quickly and require more mowing and pruning. Excessive nitrogen produces weak new growth, which stresses plants and can make them more susceptible to pests and disease. These types of fertilizers are also more likely to wash off landscapes.

Applying precise amounts in a timely manner will promote healthy plants and reduce potential water pollution. Fertilize only as needed with slow-release formulas or organic-based materials to maintain plant health. This will also minimize growth spurts and reduce the need for pruning and mowing.

Use Pesticides Sparingly
Healthy soils produce healthy plants. Overuse of chemical pesticides can kill earthworms and microorganisms that keep soil and plants healthy. This leads to more dependence on chemicals and weaker plants. Pesticides can also enter storm drains and pollute waterways. Use the least toxic pest control alternatives. Start by using simple physical controls, such as hand picking, barriers, caulking holes, traps, vacuuming, etc. Next use biological controls: predatory insects (for example, green lacewings and ladybugs eat aphids) and bacterial insecticides (for example, *Bacillus thuringiensis* kills caterpillars).

Last Resort
As a last resort, use such non-toxic chemical controls as: insecticidal soaps, baits, boric acid powder, horticultural oils, pyrethrin-based insecticides, insect growth regulators (interrupts reproductive cycle of insects), and dehydrating dusts (for example, silica gel).

For more information on the least toxic methods of pest control, visit these Web sites:

- Water Wise Pest Control Program
  www.sacstormwater.org/wise/index.htm
- University of California Integrated Pest Management
  www.ipm.ucdavis.edu/

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Landscape Maintenance
Using good horticultural and landscape practices reduces fertilizers and pesticides usage and produces healthy and disease-resistant landscapes. Adding compost to the compacted, heavy clay soils that are common in North Natomas improves texture, moisture and nutrient-holding capacity. Using mulch (chipped woody materials) in planting beds helps insulate roots, reduces weeds, conserves water, and controls erosion. Installing low-maintenance plants reduces water, fertilizer, and pesticides requirements. Using native plants will attract beneficial insects, birds, and other wildlife.

Prune trees and shrubs to maintain natural growth patterns, and avoid topping and shearing: this is unhealthy for plants and trees and promotes weak new "sucker" growth that is disease-prone. Use proper mowing, fertilizing, and irrigation practices to maintain a beautiful, healthy lawn.

Green Waste in the Gutters
Green waste (yard trimmings, leaves, grass clippings, etc.) dumped into street gutters provides an opportunity for these materials to flow into storm drains. Water runoff from landscapes can carry green waste debris into the storm drain system and pollute the neighborhood detention basins.

Pile Placement
Place green waste in a compact pile on the street in front of your home, ***not in the gutter***. Do not block the flow of stormwater or landscape runoff in the storm drains. Keep cars, trash, or recycling containers at least 6 feet from the garden refuse pile. Sweep up landscape debris from sidewalks, driveways, and gutters. ***Never hose green waste debris into the storm drain!***

Other Solutions
The best way to prevent green waste from entering the storm drains is to reuse it in your landscape. Grasscycling and backyard composting are excellent ways to improve the health of your landscape and reduce the amount of green waste ending up in storm drains.

Grasscycling
Keep grass clippings off the street by grasscycling. This is the natural recycling of grass by leaving clippings on the lawn when mowing. Grass clippings decompose quickly, returning valuable nutrients and beneficial organic matter back to the soil. Grasscycling saves time, the hassle of bagging and raking, and the mess of dumping grass clippings in the street.

Backyard Composting
Another solution is to compost yard trimmings and return these valuable organic materials back into your soil. Compost improves the texture, moisture, and nutrient-holding capacity of soil and saves homeowners from having to buy soil conditioners and fertilizers.

Home and Car Maintenance
Activities like painting, washing cars, walking the dog, or draining pools and spas can result in waste materials and toxic chemicals flowing into neighborhood storm drains. Following are some pollution solutions when engaged in these home and car maintenance activities.

Painting Without Polluting
Clean latex paint brushes, rollers or trays in the sink, ***never on the ground.*** Since oil-based paints and varnishes require hazardous thinners and solvents for cleanup, use disposable brushes, rollers and trays, and let them dry thoroughly before throwing into trash.

Empty paint cans should be cleaned in either water or solvent, and then dried before discarding in garbage. Recycle empty spray paint cans, and do not pour excess paint into the storm drain or sewer. Take unused or leftover paints, thinners, and cleaning solvents to a household hazardous waste collection site for disposal.

Car Care and Pollution
Oil, grease, antifreeze, and other toxic fluids associated with car care are a source of pollution that washes off driveways and street gutters and flows into storm drains. Inspect and maintain your car regularly to prevent leaks. Soak up leaks and spills from driveways and street gutters with kitty litter or other absorbent materials, and sweep up and discard into the trash. ***Never hose down spills into the storm drain.***

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Use biodegradable, low phosphate, non-toxic cleaning products when washing your car. Take used motor oil and other fluids to an automotive center or service station with a recycling program. Reduce automotive use by car-pooling, riding the bus, or bike to work. When it rains, air pollution turns into stormwater pollution.

Pet Waste Problems
Runoff and rain can carry pet droppings from landscapes, sidewalks, and street gutters into the storm drain system. Pet fecal matter may contain disease organisms that can contaminate water and render it unhealthy for aquatic life and unsafe for humans. Use kitty litter or shredded paper bedding materials to absorb pet waste around the home. Carry a "pooper-scooper" when walking pets in the neighborhood. Never bury this material in backyard gardens or add to a compost pile. Shovel up animal wastes, seal in bags, and throw away in the trash refuse container. Pet waste may also be flushed down the toilet.

Pool and Spa Discharges
Discharges into storm drains from swimming pools, fountains, or spas may contain chlorine, copper, or filter backwash that harms aquatic life. Water containing chlorine and copper must only be discharged into the sanitary sewer through a sewer cleanout, laundry sink, or other interior plumbing fixture. Copper comes from algae control products and corrosion of plumbing and heater equipment. Wastewater from washing cartridge filters must also be disposed in the sanitary sewer. Provide a settling tank for filter backwash discharges and dispose spent diatomaceous earth filter medium in the garbage.

"Let Nothing But Rain Flow Into The Drain."

More Information
For more information on these issues, please contact the following:

Earth 911 or 1-800-Cleanup
www.earth911.org/usa/

State Water Resources Control Board
www.swrcb.ca.gov/nps/lookwhatyoucando.html

Ken Decio of the CIWMB at (916) 341-6586 or kdecio@ciwmb.ca.gov.

Free - Grant Writing Workshops

Interested in securing badly needed funding for projects in your community? The California Integrated Waste Management Board will be offering free Grant Writing Workshops to help develop your proposal skills and improve your chances of ranking well in future grant offerings.

Workshops will be conducted on:
Tuesday, August 26, 2003 in Los Angeles at the Junipero Serra Building and;
Thursday, September 18, 2003 in Sacramento at the Cal/EPA Headquarters Building.

For additional information, or to get your name on a contact list, please contact Roger Ikemoto of the CIWMB's Grant Administration Unit at (916) 341-6170 or email at rikemoto@ciwmb.ca.gov.

Don't get left behind!

FOOD WASTE:
DISPOSE IT OR DIVERT IT?

Food. It's such a basic need for all living things, including people. Tremendous amounts of land, water, energy, chemicals, and labor are applied to produce this valuable resource.

California has been the leading agricultural state for more than the last 50 years. Even so, each year the demands on food banks and social service programs providing food increases. The CIWMB estimates that California disposes more than 5½ million tons of food each year, making up about 16 percent of the waste stream. In some jurisdictions, it's more than 30 percent of the waste stream.

About half of this food comes from the residential sector. About a quarter comes from restaurants. The remaining quarter comes from grocers, schools and institutions, hotels, food processors, and other miscellaneous sources.

Of course, much of this food is not edible. Still, surplus food can become animal feed or compost where the necessary infrastructure exists. If non-existent, such infrastructure can be developed over time. The diversion of food also helps to eliminate many hazards associated with the landfilling of this material, such as odor, leachate, methane, and other human health and safety problems associated with the transport and disposal of municipal solid waste in California.

To facilitate the development of food diversion programs, in October of 2002 the CIWMB sponsored a Statewide Food Diversion Summit in Sacramento The summit highlighted a wide variety of speakers and provided stakeholders with an opportunity to discuss the challenges and possible solutions for food diversion efforts. At its February 2003 meeting, the Board adopted the following recommendations developed from this input:

- Development of contract concepts or legislative proposals supporting food diversion program development to present to the CIWMB.
- Development of a Web-based food diversion information clearinghouse.
- Promotion of assistance tools and resources as they are developed.
- Pursuit of partnerships and working agreements with trade associations, food-related regulatory agencies, and other food-related organizations.
- Adoption of a food "waste diversion hierarchy."

Contract Concepts and Legislative Proposals

CIWMB staff will continue to submit contract proposals and legislative proposals that facilitate food diversion. In the current fiscal climate, some contract concepts may have to be put on hold and reintroduced when more contract service money is available. Staff is also trying to ensure food diversion efforts are considered in the legislative analysis process.

Food Diversion Information Clearinghouse

See the food diversion information clearinghouse being designed to meet needs identified at the summit at www.ciwmb.ca.gov/FoodWaste/. When complete, it will include the following:

- Model programs and contacts.
- Case studies.
- Fact sheets.
- Suggested outreach methods and materials for food diversion education.
- Graphic materials.
- Best management practices for food generators.
- Funding sources and cost reducing measures.
- Partnership opportunities.
- Food diversion facility lists.
- How-to guides (for food diversion program startup).
- Assistance publications and Web sites.
- Biodegradable product vendors and testimonials.
- Food diversion equipment vendors and testimonials.
- State and industry standards and guidelines.

Partnerships and Promotion

As these tools and resources are developed, they are being actively promoted by CIWMB staff through an outreach campaign. The partnerships with trade associations, food-related regulatory agencies, and other food-related organizations mentioned above are an integral part of this campaign, enabling staff to publicize food diversion assistance tools and resources through appropriate Web sites and publications.

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The Food Diversion Hierarchy
The food diversion hierarchy adopted by the Board is consistent with the current integrated waste management hierarchy provided by the California Integrated Waste Management Act (IWMA). The food diversion hierarchy is consistent with zero waste and sustainability goals of the Board's strategic plan. Like the integrated waste management hierarchy, the food diversion hierarchy is not intended to be a strict prescription for all cases. Instead, it is a guideline for aiding generators and diversion program managers in making decisions about how to best divert food from the landfill. The hierarchy is as follows:

1. **Waste Prevention**
Preventing food waste conserves the most resources and is often the most economically efficient method of diverting food waste.

To the commercial sector, business food waste prevention is just good business, and minimizing waste through practices like "first in, first out," and "just-in-time inventory" have become relatively commonplace. "Portion control" at restaurants is less widely used, since large portions are often seen as a selling point. Offering smaller portions and seconds, or a "light eaters menu" and doggie bags can help reduce disposal.

Schools and institutions can practice "offer vs. serve" to minimize waste, a practice consistent with the federally funded school lunch program that can save a significant amount of money. Schools can also promote "zero waste lunches" as an integral part of curriculum.

2. **Human Consumption**
Food that is still legally suitable for people to consume should first be considered for donation to food banks and rescue programs. Most jurisdictions have access to a local food bank or other charitable organization that will collect surplus food for those in need. Prepared foods can also be donated and re-served on a same-day basis by professionally-managed organizations. The Good Samaritan Food Donation Act protects donors from liability, as long as they donate in good faith. Ideal donors include grocers, produce markets, restaurants, schools and institutions, and food product companies.

3. **Animal Feed**
Food not suitable for human consumption, but suitable under State and Federal guidelines for supplementing animal feed, should be considered as such before composting or vermicomposting. Supplementing animal feed with this material reduces the use of land, water, and other resources used to grow grain, alfalfa, and other plants currently dedicated for that purpose.

Informal arrangements can be made with local farmers and ranchers to divert preconsumer food from the garbage. Food processors, bakeries, or other generators of large amounts of foodstuffs can try to make arrangements with an animal feed manufacturer by calling the California Grain and Feed Association at (916) 441-2272. Postconsumer food waste can be collected by a limited number of pig farmers licensed by the California Department of Food and Agriculture's Animal Health Branch. To locate the nearest licensed pig farmer, call the Animal Health Branch at (916) 657-5225. Grease, meat, bone, and other animal products should be collected by rendering or tallow companies because improper disposal of grease causes many problems such as sewer blockage and even beach closures.

4.**Composting/Vermicomposting (Composting with Worms)**
Food that can't be donated for human or animal consumption can be composted into a beneficial soil amendment, greatly reducing the amount of material going into landfills. This may include spoiled fruits and vegetables, stale bakery items, kitchen prep trimmings, and leftover plate scrapings. The composting of mammalian flesh, however, is not permitted except with a disease prevention exemption from the CDFA Animal Health Branch.

Most California jurisdictions do not currently have the infrastructure developed to initiate large-scale collection and composting systems. In addition to the political will, economics, hauling capabilities, education campaign, and implementation plan, jurisdictions must also have a properly permitted compost facility to partner with. When all of this comes together, typically a jurisdiction will start a pilot program collecting preconsumer food waste from commercial food generators before attempting to tackle the residential sector. Backyard composting or home vermicomposting are currently more common methods of diverting residential food waste.

On-site composting and vermicomposting is also an option for schools, institutions, and in some cases, the commercial sector. For schools, a composting or

vermicomposting program can go hand-in-hand with curriculum and a school gardening project. Schools, institutions, and some restaurants or grocers might also be interested in using in-vessel technologies to compost on-site. While typically a significant investment, the generator may be able to amortize this cost over time through avoided disposal costs and/or compost sales.

5. **Environmentally Safe Disposal** When all the diversion options have been fully explored and conditions do not permit a current program, disposal in a permitted solid waste facility is sometimes the only remaining environmentally sound option. Even so, conditions change over time, and one of the diversion opportunities listed above may eventually become available.

The Statewide Food Residuals Diversion Summit proved to be a successful forum to provide information to attendees and receive input from stakeholders on how to best facilitate food diversion in California. The implementation of the work plan resulting from the adoption of the summit recommendations is expected to help California lead the way in keeping this valuable material out of landfills and ensuring it is used for its best purpose.

Need Help?

Looking for answers to those pesky questions about composting or what to do with left over food scraps?

Let the Board's friendly Organic Materials Management staff help answer your questions about:

Resource-Efficient Landscape Management	**Ken Decio & Mel Ries**	**916-341-6586 916-341-6585**
Food Residuals	**Terry Brennan**	**916-341-6578**
Conversion Technology (CT)	**Fernando Berton**	**916-341-6590**
Compost Procurement/ Quality & CT Regulations	**Brian Larimore**	**916-341-6579**
Agriculture & Erosion Control	**Pat Paswater**	**916-341-6593**
Agriculture & Biosolids	**Ron Lew**	**916-341-6605**
Agriculture & CT Economics	**Steve Storelli**	**916-341-6591**
Supervisor	**Kevin Taylor**	**916-341-6582**

You can also contact us through our Web site at www.ciwmb.ca.gov/Organics/

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OVERWATERING?
http://www.ciwmb.ca.gov/Organics
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